

The M. A. C. RECORD.

MICHIGAN STATE AGRICULTURAL COLLEGE.

VOL. 10.

LANSING, MICHIGAN, TUESDAY, DEC. 20, 1904.

No. 14

Y. W. C. A.

Mae Louise Reed led the last meeting of the term, Thursday evening, Dec. 15. She took for her subject "Real Friendship," which proved to be one of deep interest to those present. The attendance was good.

ELECTRICAL CLUB.

The Electrical Club at their Tuesday evening meeting listened to an address on the "Law of Contracts," by Mr. King of Lansing. They intend to study up the business and legal qualifications that an engineer should have, as well as the technical side of his education. They have taken up for their first study the New York Subway, the plan of its route and the details of its construction, the power house, etc. Mr. Wilson read the paper at the last meeting.

The next meeting will be held on Tuesday evening, Jan. 10.

THE NEW HEATING AND LIGHTING SYSTEM AT THE COLLEGE.

Every one knows of the inconvenience suffered through the inadequacy of our present heating and lighting system. To such it will be welcome news that the new power house and tunnels are about completed and men are now engaged in placing the large steam mains leading to the various buildings. The building of this system had been long thought of, but was put off from time to time until necessity demanded that something be done at once. Actual work was begun last winter when the contractor for the tunnels commenced his work. Owing to the extremely cold weather and other difficulties not much headway was made until spring, when a large force of men was employed and the work then progressed more rapidly. All summer long the grounds were in a state of resurrection, but now everything again has its original appearance.

To those who are unfamiliar with the arrangement of the present system I will say that there are two main tunnels starting from a point south of the old carpenter shop and east of the mechanical building. From here one tunnel goes out in a northeast direction until a point under the barn is reached when it deflects to almost due north, and passes in front of that row of buildings included between the horse barn and the horticulture laboratory. At a point just a little north of the botanical laboratory, it deflects again to almost northwest and ends at the woman's building. This tunnel is 6½ ft. high and 6 ft. wide, and smaller branches lead from this to the various buildings along that line.

The other main branch starts from nearly the same point and goes in a northwest direction until it reaches College Hall where it deflects to a westerly direction until a point about midway between the physics laboratory is reached when

it deflects to almost north and ends at Abbot Hall. This main line is 6½ ft. high as far as the physical laboratory, where it reduces to 5 ft. for the remainder of the distance. From a point about 100 ft. from the start of this main tunnel another tunnel 6½ ft. high branches off to the west and ends at the greenhouse. In front of Wells' Hall this reduces to 5 ft. Branch tunnels run from these tunnels to various buildings along these lines.

At the point where these two main tunnels begin is located the power house which is to furnish the heat and light to the building which depend upon the roots of this plant for their warmth and light. Here are to be installed the boilers and dynamo, the nucleus of the system. This building lies just east of the Mechanical Building and a little south so as to be near the branch track of the P. M. R. R. This building is 110 ft. long, north and south, and 78 ft. wide, east and west. The offices are in the N. W. corner and take up a space about 34 ft. by 35 ft. The engine room is about 35 x 60 ft. The boiler room is 43 x 80 ft. and the pump room is 30 x 43 ft.

The building is quite low the ridge of the building being only 32 feet above the ground. The outside of the building is of red sand brick and the inside of common brick. The foundations are of concrete and very heavy. In building this foundation much difficulty was experienced with quicksand and in one corner it was necessary to drive piles for the foundation to rest on. The tunnels run into this building.

In planning this building it was arranged to have the handling of the coal all done mechanically. For this reason a large hopper is suspended in front of each boiler to which the coal is conveyed in a car running along a track above the hoppers. From these hoppers a long pipe leads down to each boiler and conveys the coal to the automatic stokers which force it into the boilers. In front of each boiler is a hole which opens into a tunnel running transverse to the boilers and the whole length of the room. Ash bins will be placed here where the ashes can be stored and then be carried away by a car which can be run under these ash bins and receive its load and then carry it out doors to a large bin so situated that a wagon can be run under it and receive its load from a chute. The coal shed is to be placed directly back of the building and so constructed that the coal can be loaded into the feed cars mechanically.

The chimney connected to this power house is a magnificent structure and is favorably commented on by every one who sees it. It is 125 feet high and circular in cross-section. It was constructed by the Alphonse Custodis Chimney & Construction Co. of Chicago. The lower part is built of red brick to a height of 25 feet and is square. From here on it is built of their patent brick. This chimney is built on quicksand but nevertheless it is safe. First long piles from 10

to 12 inches in diameter and 20 feet long were driven into the ground so as to pass through the layer of quicksand to the hard bottom beneath. On top of these piles a huge block of concrete was built, 10 ft. thick and 18 ft. square on the bottom, and the chimney was built upon this foundation.

It is expected to heat some of the buildings from this plant by February but the whole system will not be in working order for some time.

When the system becomes completed the College will no longer be annoyed by the sudden going out of the lights and other annoyances. At a future date we will publish a photograph of the power house and chimney.

E. BALBACH.

[The above described plant was laid out and engineered by Prof. C. L. Weil. The writer and Mr. W. R. Brown, '03, acted as inspectors for the College.—ED.]

'98.

The following from a recent Peoria paper shows something of the esteem in which some of our M. A. C. men are held by those under whom they have labored:

"Dewey A. Seeley, who has been appointed to be in charge of the Weather Bureau station in this city, is given a very high recommendation by Willis S. Moore, chief of the department in Washington. The following letter was received yesterday from Mr. Moore, and is explanatory:

The Herald-Transcript, Peoria, Illinois.

Gentlemen: * * * Permit me to say that Mr. Dewey A. Seeley, who is now under orders to establish and take charge of the new Weather Bureau station at Peoria, is an example of the merit system now in vogue in the Weather Bureau. Mr. Seeley was selected for this important assignment without solicitation from himself or from his friends, but solely on account of his good record as an official of this service. Mr. Seeley entered the Weather Bureau as an assistant observer a little over six years ago, and for the past three years he has been chief clerk to Professor Cox, who is in charge of the Weather Bureau office in Chicago. His work has always been of such a character as to commend him to the officials under whom he served. His manly character, good work, and the fact that he has passed, with a high rating, all of the examinations provided for promotion in the Weather Bureau, have resulted in his being rewarded with one of the important and pleasant assignments in the Weather service—Peoria, Ill. Very respectfully,

WILLIS S. MOORE.

Chief U. S. Weather Bureau."

Beside Mr. Dewey who will now have charge of the bureau station at Peoria, the following M. A. C. men are employed by the U. S. Bureau: J. H. Kimball, with '96, special observer; C. F. Schneider, '85, Michigan Section Director, and W. S. Palmer, '89, Wyoming Section Director.

ALUMNI.

'83.

A. C. Bird is to receive the appointment of State Dairy and Food Commissioner. Colon C. Little, a graduate of the class of '84 will be his deputy.

'90.

E. J. Rowley is at present farming near Harvard, Kent Co. Mr. Rowley has made two trips to the Canadian Northwest and is so pleased with prospects there that he will sell as soon as possible and make that territory his home.

'94.

S. F. Scott is now assistant to Prof. A. B. Prescott, director of the chemical laboratory at Ann Arbor.

With '94.

John F. Nellist, with the class of '94, a civil engineer at Grand Rapids, Mich., was a visitor at the College on Friday of last week.

With '98.

Rufus W. Landon is with Sears, Roebuck & Co., Chicago.

'99.

W. K. Brainard spent a few days with College friends the past week. Mr. Brainard is professor of dairy and animal husbandry at the University of West Virginia. He is also secretary and treasurer of the West Virginia State Dairy Association.

'00.

Harvey A. Williams, a farmer at Mulliken, attended the meeting of the State Grange in Lansing the past week. Mr. Williams called on his college friends while in the city.

C. H. Parker called on college friends the past week. Mr. Parker is still in the milk and cream business in Grand Rapids.

With '02.

Lee B. Landon is with the American Tin Plate Company of Muncie, Ind.

'04.

J. A. Priest while attending the Association of Farmers Clubs in the city called on College friends.

E. O. Elmer was a College visitor the past week. Mr. Elmer was also attending the Association of Farmers Clubs.

J. H. Prost has just finished a very successful season's work with Mr. O. C. Simonds, Landscape Architect of Chicago. Mr. Prost will spend the winter in Chicago studying landscape drafting and designing.

Arthur Adelman spent a few days at the College the past week. He will spend the holidays at his home in Chesaning, after which he will return to his work at Washington.

'05.

Mr. George Rae who was with the class of '05 is spending a few days at M. A. C.

THE M. A. C. RECORD.

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MICHIGAN STATE AGRICULTURAL COLLEGE

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TUESDAY, DEC. 20, 1904.

WHILE the certificates granted students state Monday, Jan. 2 as the time limit for returning, it is generally understood that date is a legal holiday and therefore nothing in the way of classification or special examination will be done. This perhaps was not as generally understood as it should have been before college closed, but we hope this will reach many students who would perhaps come back on the Saturday preceding New Years did they not know that nothing would be expected of them on the 2d of January. The dormitories will, however, be open for students on this day so that all may get settled and ready for work on Tuesday, Jan. 3.

WITH THE PASSING OF THE FAIR.

The greatest international exposition that the world has ever known has ended. Ended, with all its stupendous and magnificent proportions, with its tendrils of interest reaching out into almost every civilized nation and even to aboriginal tribes.

At midnight, on December first, when the eager throbbing crowd had come to witness the illumination for the last time, when the revelry was at its wildest, when the last of 100 minute guns had sounded, marking off, year by year to its close, the century, which at its dawn had witnessed the transfer of the Louisiana territory from Napoleon of France, to Thomas Jefferson of the United States—there came a hush over the multitude.

As the massive bell tolled, and the floral clock chimed the hour, Pres David K. Francis turned the switch, to the last notch, slowly, as though reluctant to snuff out those lights forever. The myriad electric bulbs, which had dazzlingly silhouetted the palaces in all their beautiful outlines against the darkness of night, for seven months, began to fade. The colors had changed from white to red, then to green, and back again to white for the last time.

The pulsations of the great engines which had driven the cascades died out, and the fountains settled into quiet pools.

The lights gradually dimmed until only a perceptible glow, and

then came total darkness spreading over the grand plaza and the brilliant pageant had passed into history. But before it all becomes *ancient* history let us review a little of what this great fair has meant to Michigan along horticultural and agricultural lines, and, incidentally, what those who have gone from the Agricultural College have been able to accomplish for Michigan's honor and glory.

Prof. Taft was chief juror of awards in horticulture including all fruits, flowers and vegetables.

His system has been unique in the fact that it did away with any possible jealousy, because he selected jurors from all states and foreign countries which made exhibits,—no juror passed on exhibits from his own state or country. This plan has given great satisfaction, Prof. Taft's ability as an horticulturist has been recognized by all, both at home and abroad, his wide knowledge of technical nomenclature, and readiness with which he identified varieties has been a great help to superintendants and exhibitors from the different states. About forty states and foreign countries were represented. Prof. Taft was the recognized authority in floriculture as well as pomology.

Mr. M. L. Dean was superintendent of Michigan's agricultural and horticultural exhibits. In the agricultural hall, while the space was small owing to a small appropriation, the collection and arrangement was of such a complete nature that the jury recognized it by giving it a grand prize. There were several gold, silver, and some bronze medals awarded to different individuals who were represented.

One attractive feature was the display of Michigan wools, which comprised samples from leading breeders of nearly all of the breeds of sheep raised in Michigan. It received a great deal of attention from technical wool men, and was favorably commented upon on account of its artistic completeness. It was all arranged in upright glass cases, the samples of wool tied with ribbons of the exposition colors and against a black background. It was given a gold medal. All of this work was done by Mrs. Dean, who also arranged the grain exhibits. The collection of grains included all cereals grown in the state, both in straw and dry grain. The quantity of grain was not large, but the quality was of the best.

The exhibit included displays of manufactured articles which tended to show the different resources of the state. Toward the end of the season a very complete display of vegetables was shown, consisting of Michigan's choice potatoes, corn, etc. One squash was shown which weighed 104 pounds which was the largest in the building with the exception of Canada's mammoth squash which tipped the scale at 403 pounds. The quality of Michigan potatoes is widely known, and many inquiries were made concerning the different sections of the state in which they are best grown and varieties which succeed the best. All these questions were easily answered by Mr. Dean whose practical and technical knowledge along these lines is well known.

For the horticultural exhibit Mr. Dean began last October and November to collect and store the apples to exhibit for the early part of the fair. About 200 barrels or 600 bushels,

including nearly 200 different varieties, were put in cold storage in Grand Rapids until about March 20th, when they were shipped to St. Louis and placed in cold storage and used as necessary in display on the tables. There were on exhibition from 600 to 1,500 plates, depending on the season. All fruits were shown in their season and at all stages of the exposition there was more or less of 1903 fruit in the display even to the end when there were 200 plates of last year's fruit—comprising nearly 20 varieties some of which, especially Northern Spy, after having been out of storage six or eight weeks were in as good condition as were the same varieties from the orchards this fall.

At the end of the Fair there were 100 plates of pears which was the largest and best collection of pears at the Fair. In all between six and seven thousand plates of fruit and nuts were exhibited including apples, pears, peaches, plums, grapes, quinces, strawberries, gooseberries, currants, cherries, cranberries, black walnuts, hickory nuts, butter nuts, chestnuts, filberts and Japanese walnuts. This exhibition received one grand prize, eight gold medals, one hundred and two silver and one hundred and three bronze medals.

We have great reason to be proud of Michigan and of those who have worked so successfully to exhibit her products in this contest of the States and Countries.

We would like also to speak of Prof. Chas. Wheeler, for so many years connected with our College, now of the staff of the U. S. Dept. of Agriculture at Washington. Prof. Wheeler was Chief of the Economic Gardens, which were in the shape of the U. S. map. Upon each state were to be found growing the economic plants of that state. Valuable plants as well as noxious weed from all sections could be seen and studied. These gardens were very interesting and instructive.

"K."

THE BOTANIC GARDEN.

A recent report of the President and the Professor of Botany of a thriving eastern college mentions their efforts to secure a fund to lay out, plant, and maintain a botanic garden. A former president had longed for the appearance of some one who should give 50,000 dollars for perfecting a garden, with an endowment of 10,000 a year. This was the dream of a succession of college men for a third of a century.

In the early days of this college, more than one professor had selected a spot, dreamed and planned a botanic garden when ample means should be given for the undertaking. No further progress was made.

In 1870, when the present professor of botany began his work at M. A. C., he set to planning, in a modest way, and in the spring of 1877, 27 years ago, without any endowment, moved a few wild plants from neighboring fields, woods, and bogs, and set them on the sloping bank and the low land northwest of the pre-ent greenhouse.

I thought a very small garden just as well to experiment with till experience had enabled me to make few mistakes. By a slow process at little cost, I have learned that a garden cannot be planted once for all time, without a great cost of changing the earth about the plants. Herbaceous plants need a rotation, a change from one place to another.

The soil becomes depleted of certain elements, or the physical conditions are not right; insects and fungi find their favorite plants and settle down in great numbers to feed and multiply.

Had I waited for \$5,000 a year or possible even \$500, the garden would have been delayed for many years, if it were begun to this day. I had read a great deal about growing plants in pockets on a shady slope, the pockets surrounded by boulders. Rockwork and pockets were thoroughly tested during several seasons, till I became convinced that, however well these might answer for the cool, damp summers of Great Britain, they are not successful in Michigan. Most herbaceous plants thrive better on level ground, and when trees and shrubs are near, the latter get nourishment that the cultivated herbs suffer for. During twenty-seven summers the garden has had no change of management, and has gradually been much improved as the director acquired more experience. Evolution is the word which emphatically applies to this garden.

One horticulturist in particular has claimed that the area now under cultivation is not a botanic garden, because there is not included under the same management greenhouses, a library, a botanical museum. The museum we once had, and have not despaired of having another. It is true the greenhouses managed by the horticultural department, while they are useful to that department, are of very little use to the botanical department.

The spot for the location of our garden was very fortunate. Most of it is situated on both sides of a brook, and portions of it on a raised flat of Cedar river. In this place, depressed eight or ten feet, the whole may be seen to good advantage from the surrounding banks. The soil of the flats is good, suffering little for moisture. Before used for a garden, the spot contained two or three rubbish piles, and was otherwise unsightly by growing coarse grasses, sedges, thistles, wild parsnips, and briars. While such a place is most suitable for a garden, it is also likely to insure permanence, as no college authorities are likely to covet the ground for buildings.

The area of the garden is now just about an even two acres, and contains very nearly twenty three hundred species and varieties of seed-plants and ferns. The garden is approximately the shape of a capital letter T.

Not counting considerable of my time, especially during the long vacation, the annual expenses of the garden, with its present size, are not far from \$900.00, by far the cheapest garden of its size and quality of any within my acquaintance. Our good Professor of Horticulture says that it ought to be much extended, and should cost not less than \$5,000.00 per year.

For convenience there are at irregular intervals seven foot-bridges extending across the brook. These as well as the location of paths, bogs and ponds, are indicated on the map. In my report for 1882, printed in the Report of the Secretary of the State Board of Agriculture, appears a neat map of the garden, then consisting of about one-third of an acre, on which were cultivated not far from 700 species of seed-plants. The map was prepared by W. S. Holdsworth, '78, then instructor of drawing.

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ABOUT THE CAMPUS.

Dr. Waterman is moving this week into the cottage owned by Mrs. Kedzie.

Little Katherine Vedder was quite ill the past week, but is somewhat improved at present.

President Snyder was called to Council Bluffs, Ia., on Wednesday of last week on account of the death of his nephew.

Quite a number of the teaching force will be absent from the College during the whole or a part of the vacation.

The State Board of Agriculture did not hold a session on Friday, owing to the fact that a quorum was not present.

Quite a number of students remain at the College during the vacation, some being employed by the various departments.

The little daughter of Mr. and Mrs. Kenney, who has been quite ill, is much improved, and Mr. Kenney is again in his office.

Charles A. Blake, '06 m, was married on Monday, Dec. 12, to Miss Stella Upright, of Charlotte. Congratulations are in order.

By invitation of the Calhoun Co. farmers the State Round-up Institute will be held February 28, March 1, 2, 3 at Battle Creek.

At a meeting of the Club Boarding Association held on Dec. 14, Fred Johnston was elected president and A. H. Cameron secretary.

Miss Mame Kerr returned Wednesday evening from Three Rivers

where she was with her mother during her recent illness and death.

Mr. B. E. Benedict, with '71, who is connected with the Detroit Free Press and Farm and Live Stock Journal was a pleasant caller at the College the past week. His son, R. A. Benedict with '05, is employed in a shoe store in Detroit.

The following students constitute the board of directors of the Club Boarding Association for the winter term: A. H. Cameron, Club A; C. A. Pratt, Club B; F. L. Johnston, Club D; W. P. Wilson, Club E; C. I. Auten, Club G; H. C. Owen, Club H.

A large arc lamp has been hung in the drawing room of the mechanical building arranged with a concentric diffuser. This makes very pleasant light to work by, and it is expected that others will be placed in various parts of the building.

The State Association of Farmers' Clubs elect two honorary members each year. Last year this special honor went to Ex-Gov. Luce and Ex-Gov. Rich. This year Robert Gibbons, editor of the Farm and Live Stock Journal of Detroit, and President Snyder were selected for this distinction.

Mr. L. G. Holbrook, of the Physics Department, has recently perfected some apparatus for rendering visible electrical resonance, a phenomena in electricity which is entirely analogous to resonance in sound or music. The nodes of the electrical waves are plainly visible as shown from the resonance coil.

Some very pretty effects can be obtained with the apparatus.

The mechanical department has a unique method in the arrangement of the catalogs, which are kept in a case in the office. All catalogs of machine lathes, for instance, are placed in one binding case and the name plainly marked on the back, so that when such a catalog is wanted, only one file need be taken from the case as all catalogs under this head to be found anywhere will be found in the one binding case.

During the past week the State Grange and Farmers' Clubs met in Lansing, the Grange holding its sessions in the Masonic building from Tuesday until Friday, and the Farmers' Clubs in the senate chamber Tuesday and Wednesday. Many of the delegates visited the College during their stay and seemed much pleased with its progress. Installation of Grange officers took place on Friday evening. Among the members of the executive committee are, F. W. Redfern, with the class of '66 and E. A. Holden, '89.

We are in receipt of a copy of the *Industrialist*, published by the Kansas state agricultural college, which presents a fine half tone cut of the winning team in the recent corn judging contest at Chicago and also one of the instructor in charge of the team, V. M. Shoesmith, a graduate of M. A. C. class of '01. We give below the description of the trophy won by the above team, and also quote two paragraphs from the *Industrialist*:

"This trophy is of bronze and glass, thirty-six inches high. The trophy has a triangular base ornamented with wreaths of corn grouped around scales, typifying the exactness and accuracy needed in modern corn breeding." In the center are three glass cylinders to contain three ideal ears of corn. "On one side of these cylinders stands a bronze statue of an Indian chief in war dress, representing the original conditions in the corn belt. On the other side stands a bronze statue of Charles Willard Cook, father of Albert E. Cook, who purchased the Brookmont farm when it was a wild prairie roamed over by the Indians. The statue of Mr. Cook, Sr., represents the spirit of energy, skill and accuracy of the modern corn breeder. Capping the trophy is a bronze globe of the world the position of which, supported by the ears of corn, indicate King Corn as the foundation of the prosperity of the world."

"The students were given five samples of corn of ten ears each, three samples to be judged as pure-bred types and two as farmers' corns regardless of type. It was required that the first, second and third best ears be selected and the reasons given for the placing."

"This is a great victory for the K. S. A. C. and speaks well for the character of the instruction received at this institution, and is a special compliment to Ass't. V. M. Shoesmith, who teaches the "corn judging," trained the boys in their work, and had charge of the winning team at the International."

LONG-RANGE FORECASTS.

The following letter, signed by Prof. Willis L. Moore, chief of the U. S. Weather Bureau, is self-explanatory and vigorously defines the position of the Weather Bureau regarding long-range forecasts:

"It is the opinion of the leading meteorologists of the world that public interests are injured by the publication of so called long-range weather forecasts, especially by such predictions as relate to severe storms, floods, droughts, and other atmospheric phenomena of a dangerous or damaging character, and the persistent efforts of certain men to foist their predictions upon the public, for personal gain, have reached such proportions that it is deemed advisable fairly and temperately to counteract the influence of those whom we believe to be preying upon the credulity of the public. Some of these men may be honest, and may, in their ignorance, attach undue importance to storms that may, accidentally, coincide in time of occurrence with certain relative positions of the planets, or with changes in the phases and positions of the moon, or with periods of increase or decrease in sunspots, or apparent variations in the solar intensity. Men of this class find that for which they sincerely seek, they 'mark when they hit and never mark when they miss,' and the occurrence of a storm within the broad area of the United States, and, at times, within much broader areas, on or near the day for which they have predicted a storm, confirms, in their minds, the value of their system of prediction.

"They may believe that they have discovered a physical law or a meteorological principle that has not been revealed to astronomers, meteorologists, or any other class of scientific investigators, but the publication of predictions that, by reason of their absolute inaccuracy, are calculated to be positively injurious to agricultural, commercial, and other industrial interests, casts a serious doubt upon the honesty of the purpose, and upon their asserted disinterested devotion to the public welfare. Such publications bring the science of meteorology into disrepute, and cannot, therefore, be made in response to a desire to advance that science along useful lines; and they retard the work of the honest investigator, through whose efforts only can gains be made in a fundamental knowledge of the causation of weather that will justify forecasts for a month or a season in advance.

"As a result of my personal verification of the work of long range weather forecasters, some of whom have so far gained the confidence of the rural press as to receive liberal compensation for their predictions, I am led to the conclusion that these forecasters knowingly perpetrate fraud and do positive injury to the public at large. It is to be regretted that so many newspapers not only give space to these harmful predictions, but actually pay for them. Forecasts of this description can properly be classed with advertisements of quack medicines—they are both harmful in the extreme.

"I hope the time will come when it will be possible to forecast the weather for coming seasons, to specify in what respect the coming month or season will conform to or depart from the weather that is

common to the month or season; but that time has not yet arrived, and I believe that you will be best serving the public interests when, without indulging in personalities or mentioning any long-range forecaster by name, you teach the community you serve the limitations of weather forecasting, and warn it against imposters. Your local press should, and doubtless will, cooperate with you in this endeavor."—From Climate and Crop Service of the Weather Bureau.

THE CODLING-MOTH IN MICHIGAN.

Prof. Pettit's new bulletin, "The Codling-Moth in Michigan," has been received from the press and we give herewith a short outline of the same. Early in 1903 it was decided to start a series of observations which should give reliable information on the following: Number of broods, the times when they occur, and the effects of a spray applied just when the second brood of larvae were ready to enter the fruit. These observations have been carried on over a space of two seasons, the results of which are published in this bulletin.

In order to determine the proportion of eggs that were laid on the foliage as a whole as compared with the number laid on the fruit, a count was made on the leaves and fruit on a part of a good bearing tree in the College orchard. The count gave 13.76 per cent. of the eggs laid on the fruit as against 86.24 per cent. on the foliage. It was found that the young larvae also fed on the under side of the leaves. This helps to explain why the August spray was so efficient, for it is much easier to make the spray cover and stick to a leaf than to an apple.

An orchard in the vicinity of the College was selected for the spraying experiment, and on Oct. 15, 1904, three trees were picked and the fruit sorted as carefully as possible without cutting open each apple. One tree (No. 3) was unsprayed because of its location, being difficult to get at. The following figures show something of the effect of the spray: Tree I—Sprayed, per cent. of wormy apples, 7.06. Tree II—Sprayed twice, per cent. of wormy apples, 13.07. Tree III—Unsprayed, in sprayed orchard, per cent. of wormy apples, 42.5. Trees IV and V—Unsprayed in unsprayed orchard, 89.3 per cent. wormy apples.

Tables giving band record for 1904, number of larvae entering apples 1904, and the egg laying of the second brood 1904, are shown. Mention is also made of the natural enemies of the moth, fumigation of storage houses, spraying and preparation of insecticides. Two illustrations are given of the codling-moth and one of a flake of bark showing cocoon. The bulletin is No. 222.

C. P. Reed, '01, attended the State Meeting of Farmers Clubs held in Lansing as delegate from the Marion Farmers Club of Livingston county. He and Will Grocinger, delegate from the Tyrone Farmer's Club, also in Livingston, called at the College.

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On Wednesday morning of last week the official thermometer at the College registered 18 degrees below zero which is three degrees colder than at any time last winter.

Mr. and Mrs. O. E. Carr of Fowlerville visited their two sons of the Freshmen agricultural course while attending the meeting of Farmers Clubs in Lansing.